

REMARKS

Claims 15-18 and 24-46 are pending. Please amend claims 15, 24, 28, 32, 37, and 42 as follows, without acquiescence or prejudice to pursue the original claims in a related application. No new matter has been added.

Interview Summary

Applicant gratefully thanks the Examiner for granting a telephone interview on September 12, 2007. Claim 16 and no prior art references were discussed. The claimed invention was explained. However, the Examiner asserted that no dependent claims include allowable subject matter. Examiner suggested that the claimed invention should be clarified to overcome any obvious variations of any prior art, but no agreement was reached regarding any amendments.

Drawing Objection

The Office Action stated that Fig. 1 of the drawings should be labeled as prior art. Attached hereto is a Replacement Sheet with Fig. 1 now labeled as prior art. Applicant respectfully requests that this objection be withdrawn.

Claim Rejections Under 35 U.S.C. §112

Claims 24-27 and 42-46 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. Specifically, the Office Action states that it is unclear what the preambles for these claims are. Applicant has amended the claims to clarify what are the preambles. Applicant respectfully requests that this rejection be withdrawn.

Claim Rejections Under 35 U.S.C. §101

Claims 24-27 and 42-46 stand rejected under 35 U.S.C. §101 because these claims do not produce any tangible results. Applicant has amended the claims to produce a tangible result. Thus, Applicant respectfully requests that this rejection be withdrawn.

Furthermore, these claims are rejected under 35 U.S. C. 112, first paragraph because the disclosure is not enabling. Specifically, the Office Action states that the computer software program which are stored in a computer readable medium and executed by a computer processing system are not enabled by the disclosure. Applicant respectfully disagrees.

"The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. A patent need not teach, and preferably omits, what is well known in the art." Please see MPEP 2164.01.

In this case, Applicant respectfully submits that the specification does not need to explicitly describe computer software programs which are stored in a computer readable medium and executed by a computer processing system as these techniques are conventional methods that are well-known to the person skilled in the art. Therefore, one of ordinary skill in the art would know how to make and use the subject matter of claims 24-27 and 42-46 without undue experimentation. For at least the foregoing reason, Applicant respectfully requests withdrawal of the 112 first paragraph rejection. If the Examiner disagrees, Applicant respectfully requests the Examiner explain why undue experimentation is necessary.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 15-18 and 24-46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over applicant admitted prior art (hereafter AAPA) in view of Cox (U.S. Patent No. 6,873,185).

Independent claims 15, 24 and 28 recite at least the feature of "the ExOR matrix is configured such that the number of pins logically associated through the ExOR matrix is less than the number of scan chains coupled to the ExOR matrix." Independent claims 32, 37 and 42 recite at least the feature of "the pins and scan chains are configured such that the number of pins is less than the number of scan chains."

In one embodiment of the claimed invention as clearly shown in Figs 2 and 3, the plurality of pins are grouped into Group A pins and Group B pins. A logical association is formed by ExORing pins from the two groups. As a result, a reduced number of test pins are necessary to drive a multitude of scan chains as compared to conventional methods.

The Office Action admits that the AAPA does not even disclose logically associating pins of groups. Thus, AAPA does not teach or suggest at least the features of "the ExOR matrix is configured such that the number of pins logically associated through the ExOR matrix is less than the number of scan chains coupled to the ExOR matrix" or "the pins and scan chains are configured such that the number of pins is less than the number of scan chains." Moreover, AAPA discloses a test pin for each scan chain. AAPA discloses that normally an input pin and an output pin are

required to access each scan chain; therefore, AAPA does not teach or suggest any grouping of pins or any advantages that results from the grouping as claimed.

Furthermore, the Office Action states that Cox discloses two groups of pins. Applicant respectfully disagrees. Cox discloses a complex macro cell. This cell is implemented as a single rectangular cell including gates structures that are standalone gates in the sense that all of their input/outputs (I/O's) are available for routing in the programmable layers, and that they are not prewired to any other gates in the base. Cox does not teach or suggest grouping these I/O's. Thus, Cox does not disclose any grouping of pins as claimed.

Moreover, Cox discloses that the gate structure may be an XOR gate. However, it is an unconnected gate structure for later routing. Cox is silent with respect to generating logical associations where there are less pins than scan chains. Thus, Cox does not teach or suggest at least "the ExOR matrix is configured such that the number of pins logically associated through the ExOR matrix is less than the number of scan chains coupled to the ExOR matrix."

Furthermore, Cox discloses that the gate structure may be an XOR gate. However, it is an unconnected gate structure for later routing. Cox is silent with respect to any logical associations there are less pins than scan chains. Thus, Cox does not teach or suggest "the pins and scan chains are configured such that the number of pins is less than the number of scan chains."

Therefore, AAPA and Cox, singly or in combination, fail to teach or suggest all the features of the claims. Thus, Applicant respectfully requests this rejection be withdrawn.

Because all the dependent claims include all the limitations of their respective independent claims that they depend from, they are allowable for at least the same reasons.

CONCLUSION

Based on the foregoing, it is believed that all claims are now allowable and a Notice of Allowance is respectfully requested. If the Examiner has any questions or comments regarding this amendment, the Examiner is respectfully requested to contact the undersigned at (650) 849-4820.

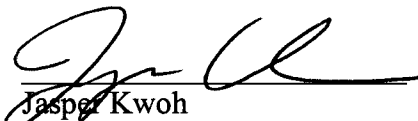
To the extent that any arguments and disclaimers were presented to distinguish prior art, or for other reasons substantially related to patentability, during the prosecution of any and all parent and related application(s)/patent(s), Applicant(s) hereby explicitly retracts and rescinds any and all such arguments and disclaimers, and respectfully requests that the Examiner re-visit the prior art that such arguments and disclaimers were made to avoid.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Bingham McCutchen's Deposit Account No. 50-4047, referencing billing number 7034222001. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Bingham McCutchen's Deposit Account No. 50-4047, referencing billing number 7034222001.

Respectfully submitted,

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